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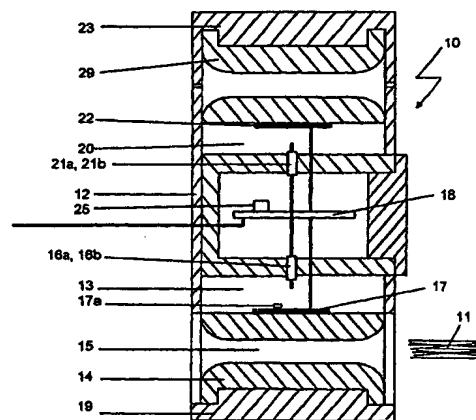
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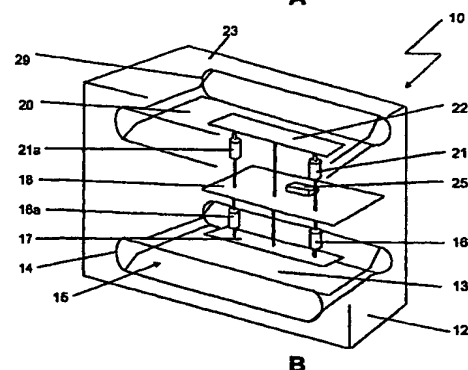
(54) Title: METHOD AND APPARATUS FOR THE ANALYSIS OF MATERIAL COMPOSITION

(57) Abstract

A method is provided for analysing the composition of a semiconductor material (3) comprising irradiating the material with energy from an energy source (1) which energy is diffracted from the material, detecting one or more portions of the diffracted energy, and analysing the or each detected portion to obtain a parameter indicative of the intensity of the or each portion. The or each portion of the diffracted energy detected may be a quasi-forbidden reflection diffracted from the material, e.g. may be a (002) reflection diffracted from the material, or a (006) reflection. The detection of the or each portion of the diffracted energy may take place at one or more detection angles (9), or at all angles of reflection/transmission of the diffracted energy source, or at a range of angles around one or more detection angles. The energy source may comprise a beam of x-rays produced by an x-ray tube (2), and one or more detectors (4) may be used to detect the or each portion of the diffracted energy.



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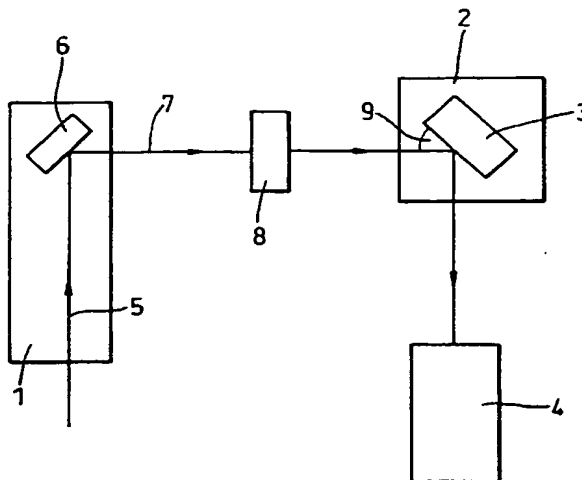
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(57) Abstract: A method is provided for analysing the composition of a semiconductor material (3) comprising irradiating the material with energy from an energy source (1) which energy is diffracted from the material, detecting one or more portions of the diffracted energy, and analysing the or each detected portion to obtain a parameter indicative of the intensity of the or each portion. The or each portion of the diffracted energy detected may be a quasi-forbidden reflection diffracted from the material, e.g. may be a (002) reflection diffracted from the material, or a (006) reflection. The detection of the or each portion of the diffracted energy may take place at one or more detection angles (9), or at all angles of reflection/transmission of the diffracted energy source, or at a range of angles around one or more detection angles. The energy source may comprise a beam of x-rays produced by an x-ray tube (2), and one or more detectors (4) may be used to detect the or each portion of the diffracted energy.



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